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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER				
YOUSEFI, SHAHROUZ				
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2132				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/518,266

**Applicant(s)**

ROBERTS, DAVID KEITH

**Examiner**

SHAHROUZ YOUSEFI

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09/28/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-850)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 12/16/2004 and 09/28/2005

## **DETAILED ACTION**

### ***Drawings***

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The abstract of the disclosure is objected to because "signal (10)" should instead be --signal (20)--. Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vynne et al. (US 5,960,081) in view of Cooper et al. (US 6,356,363).

With respect to claims 1, Vynne et al. teaches embedding of a signature **(watermarking digital video material by embedding a digital signatures, abstract)** generated for at least a first region **(4.1A and 4.1B show blocks from two regions of a frame, col. 18, lines50-51)** of said audio-visual signal by spreading bits **(so for one block, two bits are coded, col.15, line 7)** of said signature over a portion of said audio-visual signal, but it doesn't teach that said portion being larger than said first region. However, Cooper et al. teaches that **(the first region of the threshold array that contains the first share of the embedded watermark will become aligned with the second region of the threshold array containing the second share of the watermark, col. 10, lines 61-64)**. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Vynne et al. with Cooper et al. to make watermarking a digital video more robust and perceptually invisible.

With respect to claim 2, Cooper et al. teaches that said portion is significantly larger than first region **(the first region of the threshold array that contains the first share of the embedded watermark will become aligned with the second region of the threshold array containing the second share of the watermark, col. 10, lines 61-64)**.

With respect to claim 3, Vynne et al. teaches that said signature is embedded as a watermark (**The watermarking technique described is able to hide a digital signature, col. 4, lines 43-44**).

Claim 11 differ from claim 1 only in that claim 1 is a method claim whereas, claim 12 is an apparatus claim. Thus, claim 11 is analyzed as previously discussed with respect to claim 1 above.

Claim 12 differ from claim 1 only in that claim 1 is a method claim whereas, claim 12 is a computer readable medium claim. Thus, claim 12 is analyzed as previously discussed with respect to claim 1 above.

Claims 4-6 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vynne et al. (US 5,960,081) in view of Cooper et al. (US 6,356,363) as applied to claim 1 above, and further in view of Cox et al. "Secure Spread Spectrum Watermarking for Multimedia".

With respect to claim 4, Vynne et al. doesn't teach that watermark is a spread spectrum watermark. However, Cox et al. discloses spread spectrum watermarking for multimedia, title. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Vynne et al. with spread spectrum watermark of Cox et al. to make removal of watermark difficult and/or in case of any attempts to remove the watermark it would result in sever degradation in fidelity.

With respect to claim 5, Cox et al. teaches that the watermark is embedded according to the best trade-off between payload size of said audio-

visual signal, robustness of said watermark and visibility of said watermark **(as a result an attack creates visible (or audible) defects in the data. Similarly, unintentional signal distortions due to compression or image manipulation, must leave the perceptually significant spectral components intact, otherwise the resulting image will be severely degraded. This is why the watermark is robust, p.1677, col. 2, lines 20-24).**

With respect to claim 6, Cox et al. teaches that each signature bit is embedded multiple times in different locations within said portion **(Spreading the watermark throughout the spectrum of an image ensures a large measure of security against unintentional or intentional attack, p. 1677, col. 1, lines 39-41).**

With respect to claim 7, Cox et al. teaches that decomposing said signature bits to multiple areas or a single large area within said portion such that information needs to be extracted from said multiple areas or said single large area within said portion, in order to evaluate the original signature bits (in contrast, the NTSC signal is decomposed into two subbands, L and M, The coefficients,  $M_k$ , within the M band are quantized...the method relies on modifying least significant bits, p.1676, col. 1, lines 20-30.

With respect to claim 8, Cox et al. teaches that said embedding spreads each signature bit over the whole audio-visual signal **(Spreading the watermark throughout the spectrum of an image ensures a large measure of security against unintentional or intentional attack, p. 1677, col. 1, lines 39-41).**

With respect to claim 9, Cox et al. teaches that said signature comprises combined signature bits for a plurality of regions of said audio-visual signal **(Spreading the watermark throughout the spectrum of an image ensures a large measure of security against unintentional or intentional attack, p. 1677, col. 1, lines 39-41).**

With respect to claim 10, Cox et al. teaches that the location of said portion has no fixed relationship to said region **(the exact location of the watermark in an image is unknown, p. 1673, lines 22-23).**

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vynne et al. (US 5,960,081) in view of Cooper et al. (US 6,356,363) as applied to claim 1 above, and further in view of Cox et al. "Secure Spread Spectrum Watermarking for Multimedia", and further more in view of Steinberg et al. (US 6,628,325).

With respect to claim 13, (Vynne et al., Cooper et al. and Cox et al.) don't teach the use of the method according to claim 1 in a surveillance camera or security camera or digital image camera or digital video camera or a medical imaging system. However, Steinberg et al. teaches a video digital camera to send image data directly from the camera, col. 1, lines 45-46, and the communication device can also be programmed to mark, i.e. watermark or finger print, which are invisible marks, the images for the purpose of deterring unauthorized use, and/or it can be programmed to prepare image authentication data, or to encrypt the entire set of image data to prevent any unauthorized person from viewing the image, col. 8, lines 48-54. It would have been obvious at

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the time the invention was made to a person having ordinary skill in the art to modify teachings of Vynne et al. with Steinberg et al. to use the method in the above mentioned devices so that a digital signature in the form of a watermark can be inserted in an image to enable authentication of the image.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHAHROUZ YOUSEFI whose telephone number is (571) 270-3558. The examiner can normally be reached on Monday-Thursday 9:00-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. Y./  
Shahrouz Yousefi  
Examiner  
02/07/2008

/Gilberto Barron Jr./  
Supervisory Patent Examiner, Art Unit 2132